SEVENTH APPROXIMATION
DATA FORM FOR CONVENTIONAL ASSESSMENT UNITS (Version 6, 9 April 2003)

IDENTIFICATION INFORMATION

Assessment Geologist:	M.E. Brownfield	Date:	24-Feb-09
Region:	North America	Number:	5
Province:	Western Oregon-Washington	Number:	5004
Total Petroleum System:	Cretaceous-Tertiary Composite	Number:	500401
Assessment Unit:	Western Oregon and Washington Conventional Gas	Number:	50040101
Based on Data as of:	IHS Energy well data (2008)		
Notes from Assessor:			

CHARACTERISTICS OF ASSESSMENT UNIT

Oil (<20,000 cfg/bo overall) **or** Gas (≥20,000 cfg/bo overall): Gas

What is the minimum accumulation size? 0.5 mmboe grown
(the smallest accumulation that has potential to be added to reserves)

No. of discovered accumulations exceeding minimum size: Oil: 0 Gas: 1
Established (>13 accums.) _____ Frontier (1-13 accums.) X Hypothetical (no accums.) _____

Median size (grown) of discovered oil accumulations (mmbo):
1st 3rd _____ 2nd 3rd _____ 3rd 3rd _____
Median size (grown) of discovered gas accumulations (bcfg):
1st 3rd _____ 2nd 3rd _____ 3rd 3rd _____

Assessment-Unit Probabilities:

Attribute	Probability of occurrence (0-1.0)
1. **CHARGE:** Adequate petroleum charge for an undiscovered accum. ≥ minimum size:	1.0
2. **ROCKS:** Adequate reservoirs, traps, and seals for an undiscovered accum. ≥ minimum size:	1.0
3. **TIMING OF GEOLOGIC EVENTS:** Favorable timing for an undiscovered accum. ≥ minimum siz	1.0

Assessment-Unit GEOLOGIC Probability (Product of 1, 2, and 3): 1.0

UNDISCOVERED ACCUMULATIONS

No. of Undiscovered Accumulations: How many undiscovered accums. exist that are ≥ min. size?:
(uncertainty of fixed but unknown values)

Oil Accumulations:	minimum (>0)	0	mode	0	maximum	0
Gas Accumulations:	minimum (>0)	1	mode	8	maximum	70

Sizes of Undiscovered Accumulations: What are the sizes (**grown**) of the above accums?:
(variations in the sizes of undiscovered accumulations)

Oil in Oil Accumulations (mmbo):	minimum		median		maximum	
Gas in Gas Accumulations (bcfg):	minimum	3	median	10	maximum	300

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AVERAGE RATIOS FOR UNDISCOVERED ACCUMS., TO ASSESS COPRODUCTS

(uncertainty of fixed but unknown values)

Oil Accumulations:	minimum	mode	maximum
Gas/oil ratio (cfg/bo)			
NGL/gas ratio (bngl/mmcfg)			

Gas Accumulations:	minimum	mode	maximum
Liquids/gas ratio (bliq/mmcfg)	0	2	4
Oil/gas ratio (bo/mmcfg)			

SELECTED ANCILLARY DATA FOR UNDISCOVERED ACCUMULATIONS

(variations in the properties of undiscovered accumulations)

Oil Accumulations:	minimum	mode	maximum
API gravity (degrees)			
Sulfur content of oil (%)			
Depth (m) of water (if applicable)			

	minimum	F75	mode	F25	maximum
Drilling Depth (m)					

Gas Accumulations:	minimum	mode	maximum
Inert gas content (%)	0.1	3.8	6
CO_2 content (%)	0	0.002	0.02
Hydrogen-sulfide content (%)	0	0	0
Depth (m) of water (if applicable)	0	50	200

	minimum	F75	mode	F25	maximum
Drilling Depth (m)	305		1220		6000

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ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO STATES
Surface Allocations (uncertainty of a fixed value)

1. Oregon	represents 57.42 area % of the AU			
Oil in Oil Accumulations: Volume % in entity	minimum		mode	maximum
Gas in Gas Accumulations: Volume % in entity			57.42	
2. Washington	represents 42.58 area % of the AU			
Oil in Oil Accumulations: Volume % in entity	minimum		mode	maximum
Gas in Gas Accumulations: Volume % in entity			42.58	
3.	represents area % of the AU			
Oil in Oil Accumulations: Volume % in entity	minimum		mode	maximum
Gas in Gas Accumulations: Volume % in entity				
4.	represents area % of the AU			
Oil in Oil Accumulations: Volume % in entity	minimum		mode	maximum
Gas in Gas Accumulations: Volume % in entity				
5.	represents area % of the AU			
Oil in Oil Accumulations: Volume % in entity	minimum		mode	maximum
Gas in Gas Accumulations: Volume % in entity				
6.	represents area % of the AU			
Oil in Oil Accumulations: Volume % in entity	minimum		mode	maximum
Gas in Gas Accumulations: Volume % in entity				

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7. _____ represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

8. _____ represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

9. _____ represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

10. _____ represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

11. _____ represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

12. _____ represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

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ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO LAND ENTITIES
Surface Allocations (uncertainty of a fixed value)

1. Federal Lands		represents 13.49 area % of the AU		
Oil in Oil Accumulations:	minimum	mode	maximum	
Volume % in entity				
Gas in Gas Accumulations:				
Volume % in entity		13.49		
2. Private Lands		represents 77.64 area % of the AU		
Oil in Oil Accumulations:	minimum	mode	maximum	
Volume % in entity				
Gas in Gas Accumulations:				
Volume % in entity		77.64		
3. Tribal Lands		represents 0.63 area % of the AU		
Oil in Oil Accumulations:	minimum	mode	maximum	
Volume % in entity				
Gas in Gas Accumulations:				
Volume % in entity		0.63		
4. Other Lands		represents 0.81 area % of the AU		
Oil in Oil Accumulations:	minimum	mode	maximum	
Volume % in entity				
Gas in Gas Accumulations:				
Volume % in entity		0.81		
5. OR State Lands		represents 1.99 area % of the AU		
Oil in Oil Accumulations:	minimum	mode	maximum	
Volume % in entity				
Gas in Gas Accumulations:				
Volume % in entity		1.99		
6. WA State Lands		represents 0.00 area % of the AU		
Oil in Oil Accumulations:	minimum	mode	maximum	
Volume % in entity				
Gas in Gas Accumulations:				
Volume % in entity		0.00		

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7. Offshore Oregon represents 1.63 area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity		1.63	

8. Offshore Washington represents 3.79 area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity		3.79	

9. _____ represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

10. _____ represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

11. _____ represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

12. _____ represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

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ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO FEDERAL LAND SUBDIVISIONS
Surface Allocations (uncertainty of a fixed value)

1. Bureau of Land Management (BLM) represents 6.67 area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity		6.67	

2. BLM Wilderness Areas (BLMW) represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

3. BLM Roadless Areas (BLMR) represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

4. National Park Service (NPS) represents 0.76 area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity		0.76	

5. NPS Wilderness Areas (NPSW) represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

6. NPS Protected Withdrawals (NPSP) represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

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7. US Forest Service (FS) represents 5.71 area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity		5.71	

8. USFS Wilderness Areas (FSW) represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

9. USFS Roadless Areas (FSR) represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

10. USFS Protected Withdrawals (FSP) represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

11. US Fish and Wildlife Service (FWS) represents 0.26 area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity		0.26	

12. USFWS Wilderness Areas (FWSW) represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

13. USFWS Protected Withdrawals (FWSP) represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

14. Wilderness Study Areas (WS) represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

15. Department of Energy (DOE) represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

16. Department of Defense (DOD) represents 0.08 area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity		0.08	

17. Bureau of Reclamation (BOR) represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

18. Tennessee Valley Authority (TVA) represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

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19. Other Federal represents 0.00 area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations:			
Volume % in entity			
Gas in Gas Accumulations:			
Volume % in entity		0.00	

20. _____ represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations:			
Volume % in entity			
Gas in Gas Accumulations:			
Volume % in entity			

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ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO ECOSYSTEMS
Surface Allocations (uncertainty of a fixed value)

1. Klamath Mountains (KLMT) represents 4.44 area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity		4.44	

2. Oregon and Washington Coast Ranges (OWCR) represents 27.31 area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity		27.31	

3. Western Cascades (WCSC) represents 10.12 area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity		10.12	

4. Willamette Valley and Puget Trough (WVPT) represents 52.69 area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity		52.69	

5. _____ represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

6. _____ represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

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7. _____ represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

8. _____ represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

9. _____ represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

10. _____ represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

11. _____ represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			

12. _____ represents _____ area % of the AU

	minimum	mode	maximum
Oil in Oil Accumulations: Volume % in entity			
Gas in Gas Accumulations: Volume % in entity			